Turning Scrap Wood into a Really Useful Workbench

Written By: Steve Hobley

TOOLS:

- Compound Miter Saw or Miter Box (1)
- Pocketing Jig (1)
- Table saw, skill or cut off, drill and bits, sander, angle finder (maybe a router). (1)
- hand-held electric drill (1)

PARTS:

- Lots of scrap 2x4 (1)
- Screws and nails (1)
- Paint and varnish (1)

SUMMARY

This project is not so much a step-by-step guide, but more of an idea. Sometimes buying something is not really the best thing to do. I have a lot of electronic test equipment and I could not find a reasonably priced desk or bench that would put everything within easy reach. So I decided to build one.

## Step 1 — Old Bench : Repurposed Dining Room Table

- My old workbench wasn't "working" — despite my best efforts to keep it clean, it was constantly getting choked up with wires, cables, and parts, and I could never find anything.

- It was too deep, too flat, and just too darned big — not an efficient use of space at all. Rather than buy another one that was "close" I decided to make one from stuff I have lying around.

- The advantage to this approach is that if I don't like it, I can change it, or add to it whenever I feel like it.

Step 2 — Making the Bench Frame from 2x4s

- I had about eight 2x4 beams left over in the garage and used these to create the frame. I knew I wanted to add a sliding draw for the computer keyboard and so I left a gap at the front left-hand side for this.

- Pocketing is a joining technique where you drill an angled hole into the side of the wood and drive self-tapping screws through the holes.

- The basic dimensions were constructed around the width of the keyboard slide, and placing the computer monitor at eye level when I was seated. Starting from these few basic measurements I built up the frame piece by piece.

- I did very little measuring — once I had the 3 vertical back "pillars" spaced correctly I just held up the next piece and marked off where I should cut. I brought over the chair and checked the general layout to make sure everything was within reach.

- I sanded down the 2x4s and put a coat of Polycrylic (again a leftover) to seal it and stop splinters from lifting up.

- I also knew that my oscilloscopes, signal generator, and soldering iron needed to be elevated — so that any trailing wires don't end up getting knotted on the main work surface.

Step 3 — Adding Some Shelves
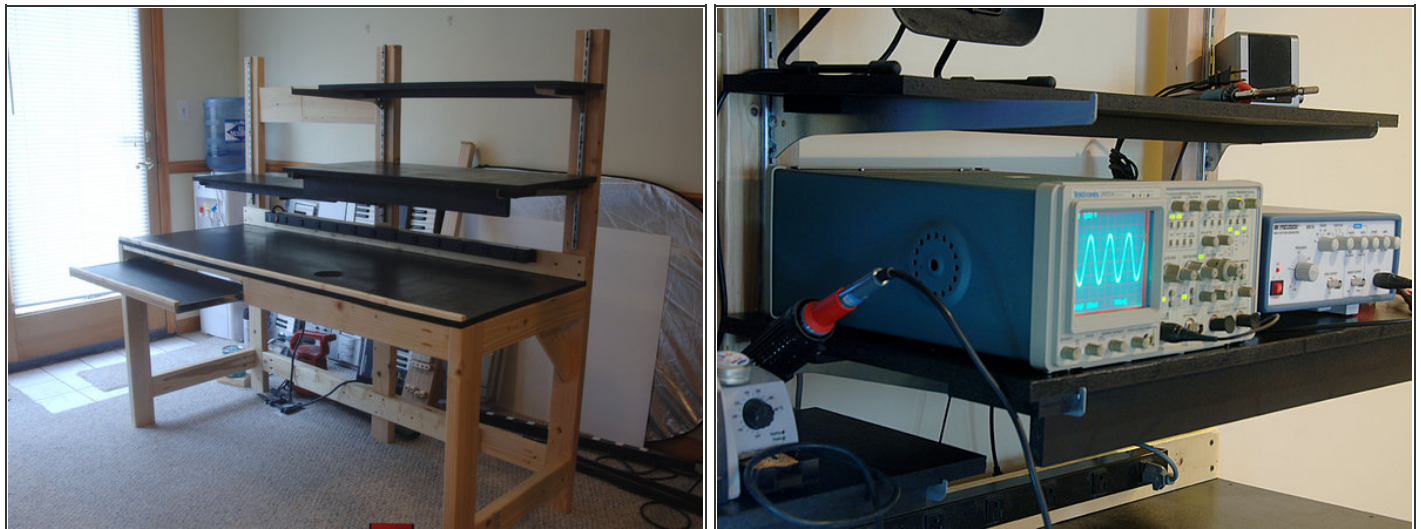
- I used 2 sheets of 5/8" particle board for the worktop and shelves. I bought the 2 slides for either side of the keyboard shelf.

- The shelving was attached using the super cheap (and quite thin) steel shelving supports — these need to reinforced and braced to stop lateral movement. I did this by gluing strips of particle board to the undersides.

- I made one shelf 12" deep to accommodate my older analog scope.

- I cut a 3" hole in the tabletop to act as a trash chute. This was actually supposed to be at the rear of the worktop, but the maker goblins moved my pencil marks to the front when I wasn't looking :-)

- I painted the shelves and worktop black so that things I put down would be easier to see (that's the theory anyway). Then a couple of coats of Polycryclic were applied to protect the (very absorbent) particle board.

- I added a thin strip of wood along the front with some nails — this was to stop things rolling off onto the floor (the basement floor is uneven).

Step 4 — Adding Cool Stuff
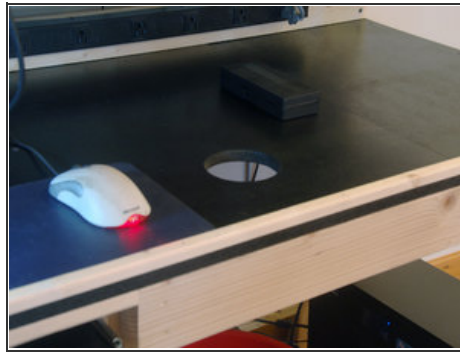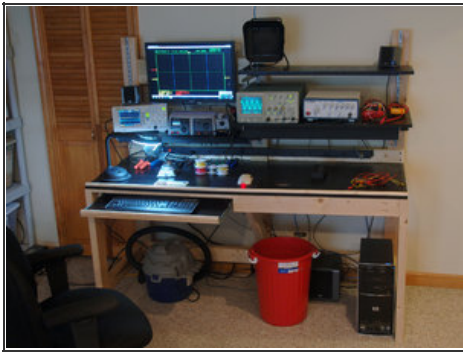
- Once the varnish was dry I loaded it up — so now I have computer, monitor (attached with long bolts through a strip of poplar), 2 scopes, multimeters, soldering iron, and signal generator all exactly where I need them to be.

Step 5 — Keep on modding…

- I used no glue when I built the frame — and 2x4's are very forgiving. So if I feel the need to change things around it's very quick and easy to do.

- The "pocketing" construction mechanism also makes it very easy to change things, or add new pieces. In the picture the cross braces were added much later on.

- When you design your desk just be sure to use the timber in compression to support weight, that is legs should go "under" the table wherever possible, not supporting from the side.

- The next addition is to attach a piece of copper pipe to the front of the deep shelf, and use this to "spool" all my hookup wire reels.

- ...and then create a little wheely cart that has extra work surface and slide out shelves for all my parts containers.

- ...and create a coil winding jig.

- ...and then add a... (you get the idea)

Hopefully you've gained the inspiration to build some custom furniture for yourself. 2x4's are really cheap, although not as attractive as oak or maple, they are easy to work with. I spent very little on the bench, but you could probably build the whole thing (including the cost of the jig) for

$100.

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